

REMARKS/ARGUMENTS

In the Final action dated June 21, 2005, claims 1, 3 – 10, and 12 – 16 were
5 rejected and claims 17 – 31, 33 – 41, 43 – 48, and 50 – 57 were allowed. In response,
Applicants propose amending claim 1 and canceling claims 3, 10, and 12 – 16.
Applicants hereby request further examination and reconsideration of the application in
view of the proposed amended claims and the below-provided remarks.

I. Allowed Subject Matter

Applicants note with appreciation that claims 17 – 31, 33 – 41, 43 – 48, and 50 –
57 are allowed.

II. Claim Rejections

15 Claims 1 and 3 were rejected under 35 U.S.C. 103(b) as being unpatentable over
Chen et al. (U.S. Patent 6,415,366, hereinafter Chen) in view of Foster (U.S. Patent
5,948,081).

Independent claim 1

20 Applicants propose to amend claim 1 to include the limitations of claim 3.
Applicants also propose to cancel claim 3. Applicants assert that the proposed
amendments should be entered in order to put claim 1 in better condition for appeal. As
amended, claim 1 recites a method to optimally access a memory unit comprising:

25 “determining at least one load value of each of the plurality of
memory channels;
based on the determined at least one load value, selecting a
particular one of the plurality of memory channels;
wherein the step of determining the at least one load value of each
of the plurality of memory channels includes determining, for each of the
30 plurality of memory channels, the number of pending read requests;
wherein the step of selecting the particular one of the plurality of
memory channels includes selecting the particular one of the plurality of
memory channels that has a lowest number of pending read requests.
(emphasis added to identify language from canceled claim 3)

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Applicants assert that the combination of Chen and Foster does not teach or suggest all of the limitations of the proposed amended claim 1. Specifically, Applicants assert that the combination of Chen and Foster does not teach or suggest the limitations of canceled claim 3 which have been added to claim 1. The limitations of canceled claim 3 were cited as being taught by Foster at col. 2, lines 36 – 38 and lines 59 – 61. (Final action, page 3)

Foster does not teach or suggest selecting the memory channel that has the lowest number of pending read requests

Applicants assert that Foster does not teach or suggest “selecting the particular one of the plurality of memory channels that has a lowest number of pending read requests” as recited in amended claim 1. Foster teaches queue logic that is configured “to service read requests before write requests unless there is a flush requested, or if the write request queue is almost full.” (emphasis added) (Summary of the Invention, col. 3, lines 12 – 15). This concept is described in more detail in col. 7, lines 36 – 38 of Foster (as cited in the Final action). Specifically, at col. 7, lines 24 – 34, Foster teaches:

“Normally, read request are de-queued or removed from queue 44 before write requests are removed from queue 46. Thus, it is said that read requests are given a higher priority by the memory controller than write requests as long as the number of pending write request in queue 46 is below a threshold number. However, when the number of write request reaches or surpasses that threshold number, the queue logic asserts an “almost-full” signal to indicate that the memory controller should start servicing write requests in lieu of read requests.” (emphasis added)

At col. 7, lines 59 – 61, Foster teaches de-queuing write requests in a burst when the write request queue is almost full (i.e., when the number of write requests in the write request queue reaches or exceeds the threshold number). The queue management logic described by Foster relates to determining whether to service read requests before write requests or write requests before read requests. As taught by Forster, read requests are serviced before write requests as long as the number of write requests is below a threshold number.

In contrast to the teachings of Foster, the limitations of canceled claim 3 relate to how a particular memory channel is selected when each memory channel has an

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associated queue of pending read requests. As recited, the memory channel with the lowest number of pending read requests is selected. The limitations of canceled claim 3 have nothing to do with write requests and nothing to do with deciding whether to service read requests before write requests or write requests before read requests. Write requests are not even mentioned in the limitations of canceled claim 3. Because the limitations of canceled claim 3 recite "selecting the particular one of the plurality of memory channels that has a lowest number of pending read requests" while Foster teaches servicing read requests before write requests, Applicants assert that amended claim 1 is not rendered obvious from Chen in view of Foster.

Claims 4 – 9

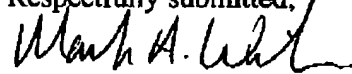
Claims 4 – 9 are dependent on independent claim 1. Applicants assert that claims 4 – 9 are allowable based on an allowable claim 1.

Claims 10 and 12 – 16

Applicants cancel claims 10 and 12 – 16. Applicants assert that these claims are canceled without prejudice.

Applicants respectfully request reconsideration of the claims in view of the proposed amendment and the remarks provided herein. A notice of allowance is earnestly solicited.

Respectfully submitted,



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